

COMMENIUS PROJECT 2009

First common task – Analysis of tap water

We have carried out the common task of tap Water Analysis with a group of ten 16 year-old students, letting the water run for 3 minutes, samples taking of 250ml. We performed the following tests.



1] Measure of temperature:

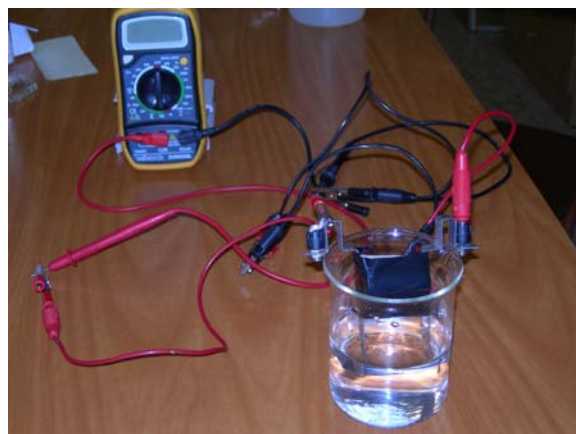
The measure of the temperature was made with a lab thermometer with no problem.

2] Measure of the pH:

The determination of pH was made with a digital pH-meter with ± 0.1 precision, but also pH paper measures with less precision. We had no problem.

3) Approximate measure of hardness through electrical conductivity.

We have determined the total quantity of tap water ions through electrical conductivity. The measurements have been carried out through a digital tester and have been compared with three test-dissolutions of 0.5, 1.0 and 1.5 g/L of NaCl. There have been some problems in the stability of the taken measures with the tester.



4) Transparency through beam laser.



We have determined the transparency through the measurement of the turbidity of the tap water. A beam laser has gone vertically through a graduated flask containing the water and has been absorbed by a photocell connected to a digital tester. We have compared the measurement with the one of the empty graduated flask, and the one of the distilled water, mineral waters and river water. We have had some problems in the stability of the taken measures with the tester because the measurement was very sensible to any vibration.

5] Chloride ion (Mohr method)

We have determined the chloride ion concentration using the Mohr method. The analysis was made with 0.1M AgNO_3 and as indicator 10% Na_2CrO_4 . The measurement had no problem. The measurement was tested with NaCl solutions: 0.5 g/L, 1.0 g/L and 1.5 g/L. Also mineral waters were tested.



* Everybody has to write a **report** using ICT (Ms Word, Power point, etc...) with name, partner, date, title, photo or drawing, equipment, description of the procedures or measurements, and results (if needed in tables) conclusions (that is explanations based on theory you know) and possible sources of error.

Additional: Besides, we would like every student to do a procedure test comparing the three countries in 'itslearning' platform

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